UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,071	12/28/2001	Andrew F. Glew	42390.P13769	5239

59796 7590 04/10/2007

INTEL CORPORATION
c/o INTELLEVATE, LLC
P.O. BOX 52050
MINNEAPOLIS, MN 55402

EXAMINER	
TESLOVICH, TAMARA	
ART UNIT	**PAPER NUMBER**
2137	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	**Application No.** 10/041,071	**Applicant(s)** GLEW ET AL.	
	Examiner Tamara Teslovich	**Art Unit** 2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1/19/07*.

2a)□ This action is **FINAL**. 2b)☒ This action is non-final.

3)□ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-4,6-13 and 15-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)□ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-4, 6-13, 15-18* is/are rejected.

7)□ Claim(s) _____ is/are objected to.

8)□ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)□ The specification is objected to by the Examiner.

10)□ The drawing(s) filed on _____ is/are: a)□ accepted or b)□ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)□ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)□ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)□ All b)□ Some * c)□ None of:

1.□ Certified copies of the priority documents have been received.

2.□ Certified copies of the priority documents have been received in Application No. _____.

3.□ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) □ Notice of References Cited (PTO-892)

2) □ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) □ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) □ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) □ Notice of Informal Patent Application

6) □ Other: _____.

DETAILED ACTION

This office action is in response to Applicant's Request for Continued Examination filed January 19, 2007.

Claims 1, 5, 14, and 19-34 are cancelled.

Claims 23, 15, 16, and 18 are amended.

Claims 2-4, 6-13, and 15-18 are pending and herein considered.

Response to Amendment

The present amendment does not comply with 37 CFR 1.121(c), which requires that each amendment include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The present amendment fails to include any mention of claims 22-34. However, because claim 24 was previously cancelled in the response received July 24, 2006, and the present amendment includes instructions to cancel claims 22-23 and 25-34 (see page 6 of Applicant's Remarks), the present amendment has been treated as though it were in compliance with 37 CFR 1.121(c). Applicant is reminded that all future correspondence must comply with the provisions of 37 CFR 1.121.

Response to Arguments

Applicant's arguments filed January 19, 2007 have been fully considered but they are not persuasive.

In response to the Applicant's arguments concerning England's failure to teach the operation of memory in a mode in which cache lines are not replaced, the Examiner respectfully disagrees. Referring back to the arguments given previous with respect to locking the memory and quoting the Applicant's remarks on page 6 "England describes a privileged instruction to disable accesses to a memory", the Examiner maintains her rejection insofar as she understand "disabling access to a memory" to include operation in a mode in which lines of memory cannot be replaced. The Examiner invites the Applicant to explain how England's disabling of access to the memory fails to include replacing of line in the memory. The Applicant's arguments seem to include an argument concerning England's failure to teach a cache memory as well. In response, the Examiner would like to point back to the numerous office actions providing support for the use of cache memory within England and the numerous citations within the England reference providing for the use of cache memory.

In response to Applicant's remarks concerning England's failure to disclose the separate private memory controller coupled to a private memory of claim 15, the Examiner respectfully disagrees drawing the Applicant's attention now to column 11, lines 27-63 wherein England teaches restrictions placed upon secure memory requiring a trusted chipset providing additional protection via a separate controller (133). Systems requiring a trusted chipset such as that described in England, are those where merely relinquishing access during secure operation may not be enough in and of itself and offer adequate protections.

For the reasons given above, the Examiner maintains her 35 U.S.C. 102(e) rejections of claims 2-4, 6-13, and 15-18 in view of England as presented in the previous office action and repeated below with amendments in response to Applicant's claim amendments.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-4 and 6-13 and 15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "authentic code." There is insufficient antecedent basis for this limitation in the claim.

Claims 2-4, 6-13, and 15-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claims 3 and 15 each contain limitations wherein authenticated code is to be authenticated. The Examiner is unsure exactly what is meant by authenticated code if it has yet in fact to be authenticated and needs to go through authentication. As a result of this indefiniteness, the Examiner is unsure how to treat limitations such as "executing the authenticated code module from the cache memory in response to determining that the authenticated code module stored in the cache memory is authentic." If the code module is an "authenticated code module", it follows that it is in fact authentic and that it would automatically be executed and that the abovementioned limitation would in fact be unnecessary. Claims 2, 4, 6-13, and 16-18 are dependent upon independent claims 3 and 15 and are rejected for the same reasons.

For purposes of furthering prosecution, the claims have been examined to the extent possible in light of the issues of indefiniteness set forth above.

Claim Objections

Claim 3 is objected to because of the following informalities: the limitation "authenticating the authentic code module storing in the cache memory" is confusing to the Examiner. It is the Examiner's belief that the Applicant intended for the limitation to read "authenticating the authentic code module *stored* in the cache memory" and would like to request that the necessary changes be made if that was in fact the Applicant's intention. If the Examiner is in fact mistaken, she would like to request that the Applicant provide an explanation as to how and what exactly is storing what.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

> only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2-4, 6-13, and 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,651,171 B1 by England et al.

Regarding **claim 2**, England discloses transferring a number of bytes specified by an operand from a memory (col.7 lines 35-56).

Regarding **claim 3**, England discloses a method comprising configuring a cache memory of a processor to operate in a mode in which cache lines are not replaced (col.11 lines 40-63), transferring an authenticated code module to the cache memory of the processor; authenticating the authentic code module storing in the cache memory, and executing the authenticated code module from the cache memory in response to determining that the authenticated code module stored in the cache memory is authentic (col.3 lines 35-43; col3 line 65 thru col.4 line 13; col.7 lines 1-4).

Regarding **claim 4**, England discloses invalidating the cache memory prior to storing the authenticated code module in the cache memory (col.6 lines 6-67).

Regarding **claim 6**, England discloses determining whether the authenticated code is authentic based upon a digital signature of the authenticated code module (col.13 lines 27-40).

Regarding **claim 7**, England discloses obtaining a first value from the authenticated code module stored in the cache memory; computing a second value from the authenticated code module; and determining that the authenticated code module is authentic in response to the first value and the second value having a predetermined relationship (col.7 lines 1-34, 57-67).

Regarding **claim 8**, England discloses retrieving a key decrypting a digital signature of the authenticated code module with the key to obtain a first value, hashing the authenticated code module to obtain a second value; and executing the authenticated code module in response to the first value and the second value having a predetermined relationship (col.13 lines 27-40).

Regarding **claim 9**, England discloses wherein decrypting comprises using the key to RSA-decrypt the digital signature, and hashing comprises apply a SHA-I hash to the authenticated code module to obtain the second value (col.13 line 8 thru col.15 line 50).

Regarding **claim 10**, England discloses retrieving the key from a processor used to execute the authenticated code module (col.15 lines 19-52; ol.11 lines 27-39).

Regarding **claim 11**, England discloses retrieving the key from a chipset (col.15 lines 19-52; col.11 lines 27-39).

Regarding **claim 12**, England discloses retrieving the key from a token (col.7 lines 57-67).

Regarding **claim 13**, England discloses receiving the authenticated code module from a machine readable medium (col.6 lines 35-46).

Regarding **claim 15**, England discloses a computing device, comprising a memory, a memory controlled coupled to the memory (col.6 lines 5-67), a machine readable medium interface to receive an authenticated code module from a machine readable medium, a private memory, a separate private memory controlled coupled to the private memory (col.6 lines 5-67); and a processor to transfer the authenticated code module from the machine readable medium interface to the private memory and to authenticate the authenticated code module stored in the private memory (col.3 lines 35-43; col3 line 65 thru col.4 line 13; col.7 lines 1-4).

Regarding **claim 16**, England discloses a key, and the processor authenticates the authenticated code module stored in the private memory based upon the key (col.7 lines 1-34, 57-67; col.15 lines 19-52; col.11 lines 27-39).

Regarding **claim 17**, England discloses wherein the processor comprises a key and authenticates the authenticated code module stored in the private memory based upon the key of the processor (col.15 lines 19-52; col.11 lines 27-39).

Regarding **claim 18**, England discloses a token, the token comprising a key, wherein the processor authenticates the authenticated code module stored in the private memory based upon the key of the token (col.7 lines 57-67; col.4 lines 21-59).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamara Teslovich whose telephone number is (571) 272-4241. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T. Teslovich

Matthew B. Smithers
MATTHEW SMITHERS
PRIMARY EXAMINER
Art Unit 2137